MONTHLY PLANS AND PROGRESS REPORT

Title: Evaluation of Usefulness of Skylab EREP S-190 and S-192 Imagery in Multistage Forest Surveys

Period Covered: June 1, 1973 to June 30, 1973

Contract: NAS 9-13289
EREP Investigation #473

EarthSat Project No: G-091

Principal

We are still continuing to make progress towards our immediate objective of developing software for use in the machine oriented digital interpretation of space platform imagery.

At the moment we estimate that we have completed at least 50% of the software development for the digital interpretation system. We are continuing with the trial interpretations of ERTS-A space platform imagery to assess the basic potential of the techniques used in the interpretation system in its present state.

We have designated two test areas in steep mountainous terrain within our test site. Each of the test areas contains 64 one-square-mile-land sections for which we have good volume estimates from a previous timber inventory as well as independent estimates made from high altitude photographic imagery.

The classifier output will be related to these estimates by means of regression analysis with which we will estimate and test the significance of the volume levels for each interpreted class.

In addition to our digital interpretation work, we have started to investigate the use that can be made from space platform imagery using manual interpretation techniques. The present manual interpretation work consists of two parts, namely (1) an experienced interpreter will interpret the same "intels" (interpretation elements) that are being interpreted by machine for a direct man-machine comparison; (2) volume estimates of primary sample units on the space platform imagery obtained by an experienced interpreter will be regressed on the known volume estimates available from a previous survey and estimates from high altitude photography, to directly assess the potential of space platform imagery for use in the sampling framework.

EXPECTED ACCOMPLISHMENTS FOR NEXT PERIOD

For the coming period we anticipate that we will continue with the digital interpretation experiments and hope that we will be able to report some concrete results by the end of the period. We will attempt to vary all major interpretation parameters to determine if there exists an optimum combination for use in the mountainous terrain, that is suitable for timber volume estimation.

With regard to the manual interpretation we will also perform the indicated regression analysis, and hopefully obtain an idea as to the usefulness of space platform imagery interpreted in this manner.

We expect to receive the first Skylab imagery during the coming reporting period and examine this imagery on a first-look basis.

SIGNIFICANT RESULTS FOR THIS PERIOD

We have not achieved any significant results in this period other than those reported in the previous progress report.

SUMMARY OUTLOOK FOR THE REMAINING EFFORT TO BE PERFORMED

Our outlook for the remaining period has not changed in any considerable way from the one reported previously.

TRAVEL PLANS

None for the next reporting period.